

Unit 3

Day 2

Add/Subt/Mult Complex Numbers

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Adding, subtracting, and Multiplying Complex numbers

1)

$$(6 - 12i) + (11 + 3i) + (-8 + 2i)$$

$$9 - 7i$$

$$2) \quad (3\sqrt{-32} - 5\sqrt{6}) - (2\sqrt{24} + 3i\sqrt{18}) - \sqrt{98}$$

$$\begin{aligned} & (12i\sqrt{2} - 5\sqrt{6}) - (4\sqrt{6} + 9i\sqrt{2}) - 7\sqrt{2} \\ & - 9\sqrt{6} - 7\sqrt{2} + 3i\sqrt{2} \end{aligned}$$

$$3) (2+4i)(-3+2i)$$

$$-6 + 4i - 12i + 8i^2$$

$$-14 - 8i$$

$$4) (\sqrt{-8} + \sqrt{16})(\sqrt{25} - \sqrt{-50})$$

$$(2i\sqrt{2} + 4)(5 - 5i\sqrt{2})$$

$$10i\sqrt{2} + 20 + 20 - 20i\sqrt{2}$$

$$40 - 10i\sqrt{2}$$

$$\frac{40 - 10i\sqrt{2}}{10}$$

$$40$$

$$4$$

$$(2i\sqrt{2})(-5i\sqrt{2}) = -10i^2 \cdot 2 = -10 \cdot -1 \cdot 2 = 20.$$

5) $(3 - \sqrt{-8})^2$

$$(3 - \sqrt{-8})(3 - \sqrt{-8})$$
$$(3 - 2i\sqrt{2})(3 - 2i\sqrt{2})$$

$$9 - 12i\sqrt{2} - 8$$

$$1 - 12i\sqrt{2}$$

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